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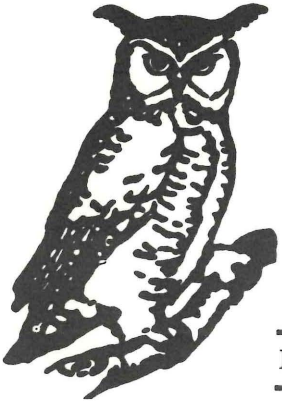
NATURALIST NOTEBOOK

MARCH 1972



NATURALIST NOTEBOOK

MARCH 1972 VOLUME VIII NO. 3

THAMES SCIENCE CENTER, INC.
GALLOWS LANE
NEW LONDON, CONNECTICUT 06320

FRONT COVER

"SKUNK CABBAGE"
Drawing by Josephine Merrill

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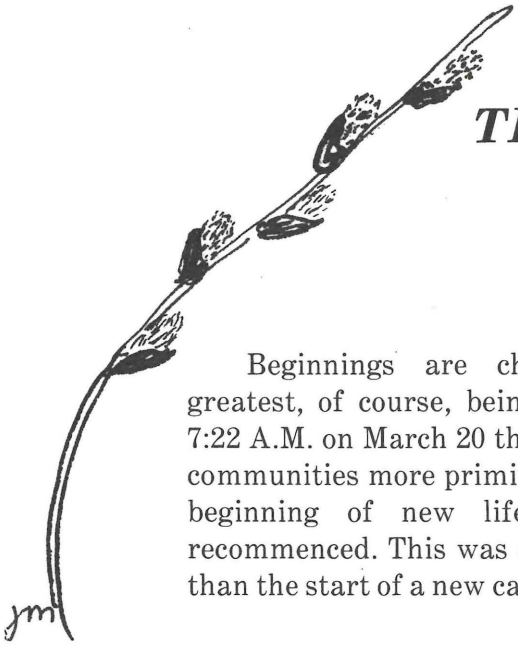


MARCH THE MONTH OF BEGINNINGS

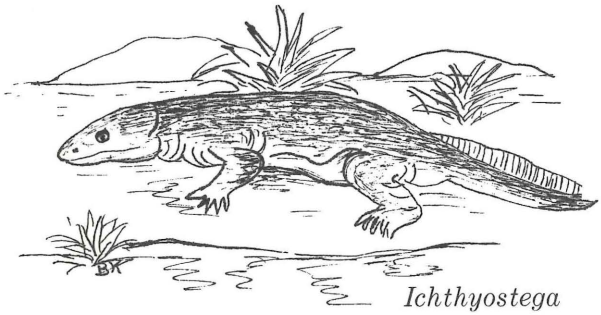
Beginnings are characteristic of March, the greatest, of course, being the beginning of Spring (at 7:22 A.M. on March 20 this year). To many societies and communities more primitive than ours, this marked the beginning of new life as the cycles of nature recommenced. This was even more important and vital than the start of a new calendar year on January 1.

If you've never kept a diary of personal nature observations, March is a great time to initiate one. Almanacs give us general ideas of what to expect seasonally, but a personal record is fun to keep so that you can know the chronology of your own especial area. Perhaps you have a customary route you follow whenever you go for a walk. The changes you can note on even a small path will surprise you.

As early as February (and in this especially mild winter, as early as January), tightly wrapped mottled spathes of skunk cabbage began thrusting upward to break out of the cold earth. They are the beginning of what will become luxuriant green leaves carpeting the swampy places by the end of March. This seems to be the earliest spring sign many notice, considering it a tip to when to expect the redwings, when to listen for the robins' *Cheerio!*, when the crocuses and snowdrops bloom, when to gather pussy willows and forsythia to force for a spring vase, and when to hear the spring peepers in chorus.

We observe these beginnings every year, and the wonder of their coming after winter's quiescence is just as fresh each time of renewal. A record of what happens this spring will make happy reference for comparison next year.

AMPHIBIANS IN THE SPRING



Ichthyostega

Text and Illustrations by Barbara Kashanski

Slowly out of the water lurched a strange-looking creature. It ambles along the banks of the stream snapping at any insects that came within its reach. Often it would pause and rest as though the weight of its body was just too heavy to carry about for any length of time. Frequently it would head back into the stream to moisten its body before continuing to forage along the stream banks. Beside the strange animal and the insects, nothing else moved on the land. There were no birds to brighten the still landscape with cheery song or carefree flight. No deer, raccoon, muskrat, or fox appeared to drink or patrol the water's edge, for there were no mammals on earth then. The strange creature was a primitive amphibian, the *Ichthyostega;* the place, eastern Greenland; the time, the upper Devonian period 365 million years ago. Fossils of the ichthyostegids reveal the transition from fish to amphibians and the story of the relocation of vertebrates from water to land. Although these newcomers to land learned to rely fully on their lungs for breathing, as adults they always returned to the water to lay their soft, jelly-coated eggs. Reproduction tied them to the past and to their watery birthplace.

The setting changes: the time is late March about 350 million years later; the place, the edge of a pond in eastern Connecticut. It is still fairly cool out, about 52 degrees, but there is warmth in the sun's rays. Suddenly from the shallow water along the pond's shore comes a loud cluck—another—then another. Soon many of these strange guttural clucking sounds are heard. From a distance it sounds like a flock of ducks quacking noisily. This strange sound is made by the lovely soft brown wood frog, one of the first amphibians to emerge from hibernation. Although most of its adult life is spent on land in or near our woodlands, like the *Ichthyostega*, the wood frog must return to the water to breed and lay its eggs. The eggs, like

those of the primitive amphibians, are coated with soft jelly and are laid in masses 2½ to 4 inches across. Often they are attached to submerged sticks of dead vegetation. There can be as many as 2,000 to 3,000 eggs in a single cluster.

As the sun dips below the horizon, a new sound is heard from the shallow edges of the pond—a high peep. The note is repeated again and again, distinct and clear, unlike the guttùral chorus of the wood frogs. Then, as if a signal were given, a whole choir of these high-pitched clear voices burst forth to join the song of new life. The spring peepers have arrived! The males come to the ponds before the females, and it is their welcome voices that tell us the season for new life and growth has begun. The eggs of the peepers are laid singly among leaves and grasses and for this reason are very hard to find.

wood frog

spotted salamander eggs

wood frog eggs

There is a silent shy member of the amphibians that creeps forth from its hidden hibernating places at about the same time the wood frog and spring peepers emerge. Its shape more closely resembles its ancient ancestor, the *Ichthyostega*, and it too must return to the water to reproduce. The beautiful small dark spotted salamander comes forth only in the darkness of night or in the shadows of early dawn to lay its eggs. By morning it has disappeared, leaving as a clue to its presence large masses of jelly-coated eggs similar to those of the wood frogs, but the eggs are fewer in number and larger in size. Often they may be found on the same twig as the wood frogs' eggs. So, as the dawn of a new spring day arrives, we have amazing evidences in the shallow water that there still is a link between today and millions of years ago when the first amphibian began life on land.

spring peeper

spotted salamander

NATURE JAUNT TO NORTHERN CONNECTICUT

by Stephan Syz

In spite of all the diversity of plants and animal habitats nearby, there is nothing like stepping outside familiar surroundings for a day into another complex of vegetation and topography. Features that distinguish northern Connecticut from our region, such as forests scattered with pines, upturned lava flows, and magnificent vistas from upland vantage points are best seen in March before the trees produce their leaves.

The McLean Game Refuge near the town of Simsbury, northeast of Hartford, can be easily reached in an hour and three-quarters; and its sand plains, traprock ridges, forests, and glacial features can be seen either from roads which traverse the area or by hiking blazed trails. To get to the Refuge from Simsbury, just follow signs for Firetown Road and the Refuge.

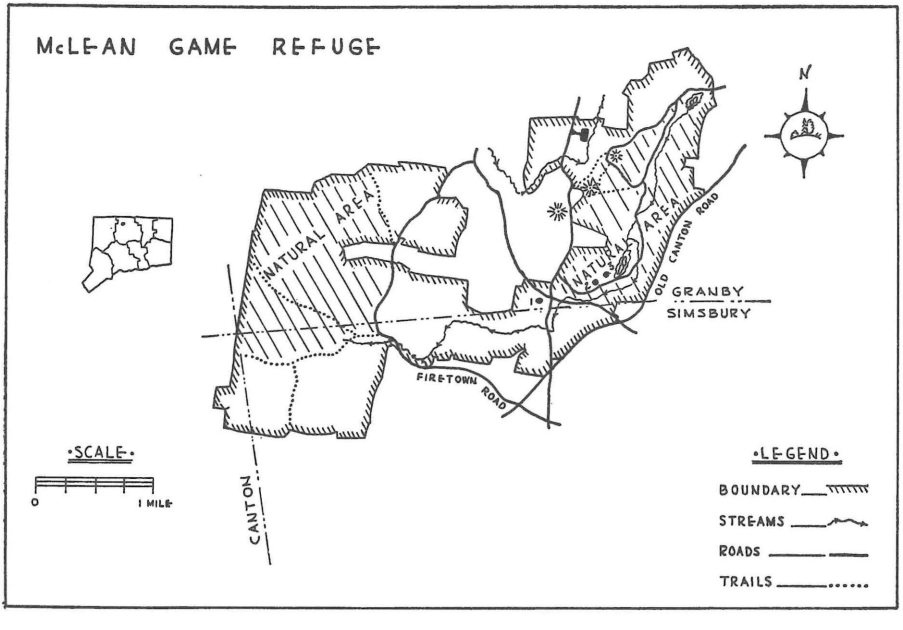
As you drive north from New London, you will notice that the vegetation of Connecticut occurs in fairly distinct zones which roughly correspond to changes in temperature. In southern Connecticut the woods are dominated by oaks and hickories, but north of a line that more or less divides the state in half, evergreen white pines become increasingly more frequent in pastures and forests. When you arrive at the McLean Refuge, the forests and the shape of the land will seem different from those to which you are accustomed. In addition to white pines scattered in the woods, you will also find increased numbers of other species of northern cooler climates, such as hemlock, red oak, sugar maple, yellow birch, and beech.

Whereas in southern Connecticut the topography is quite flat, mainly formed from glacial sand, boulders, and rock outcrops of gneiss and granite, hills and valleys characterize the McLean Refuge. To the west, very ancient crystalline rocks form highlands. Eastward, lava flows (which cover much of central Connecticut) that have been tilted up to the northwest form traprock ridges. Further to the east there are the most recently formed sand plains deposited

by glaciers of the Pleistocene. These contain large depressions 100-300 feet across and 20-40 feet deep. As the glacier receded, large chunks of ice broke off and were buried by sand. When these chunks melted these "kettles" were formed.

If you do hike and take a trail leading to the top of one of the Barndoor Hills, you will leave the sandy glacial plain on which the three-needled sand-loving pitch pine is found. As you ascend you will move through the sprout oak forest (so named because oaks when destroyed by fire or lumbering develop root sprouts and thus nearly all our forests have been formed). Shortly thereafter the oaks will nearly disappear and hickories will predominate. On approaching the summit, although you have only been hiking for a few minutes, a beautiful panorama of the countryside of northern Connecticut will unfold between the trees. At the top the vegetation changes once again. Light-requiring red cedars are abundant, but here they are twisted by the wind and weather into grotesque shapes contrasting with the straight old field forms of southern Connecticut. Hemlock, scrub oak, and pitch pine also occupy the summit.

A field guide to the trees and a sunny day should make a nature jaunt to the McLean Game Refuge a most rewarding experience.



THE CHEMISTRY OF SPRING

Text by Kathie Haeni
Illustration by Joy Miller

Spring is a glorious time of year, a time of strange and wonderful emotions. Man or mouse, flower or weed, plankton or alga, all are products of that chance combination of physical forces and chemical elements that brought life into existence. Through every activity these factors are at work; and come spring, there are urgings and pressures we do not understand.

Spring is sensed by the richening color of twigs, by the melodic sounds of birds, and by the intangible yet unmistakable texture of the air. But even before these obvious signs are visible to all, nature is dropping hints to let us know that spring is on its way. One of the first is the courtship talk of the great horned owl. When the days are just beginning to lengthen, mates are chosen, nests are built, and eggs are laid, for the owls have a long incubation and nestling period before their young can become self sufficient.

A short time later many tracks across the land tell an age-old story. The trails of foxes and mink are changing: no longer do they stick close to hunting grounds. They are moving to new territories to find mates and dens to be cleaned out. They know that spring is coming and there is no time to waste.

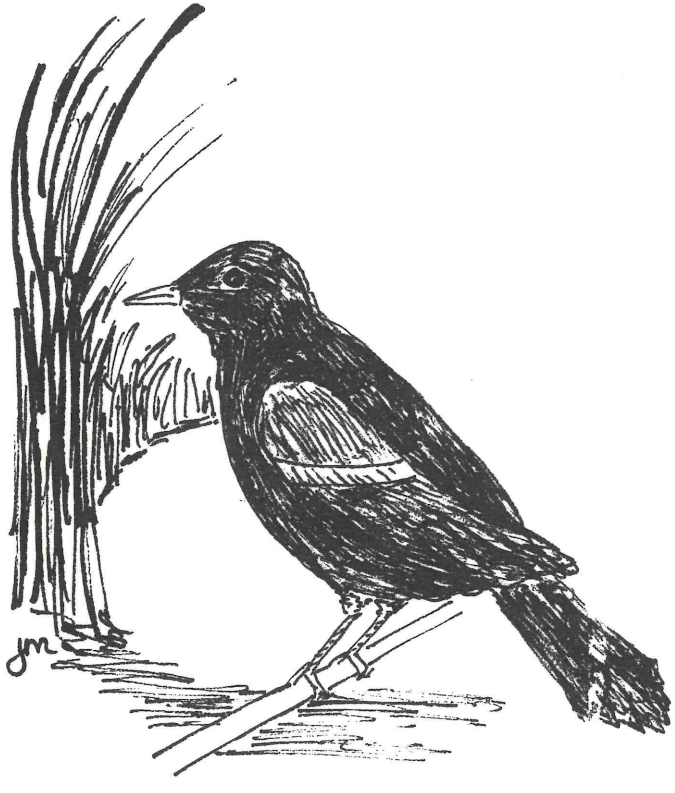
Before the swelling of the maple buds and the popping of the pussy willows, the brightening of the red-osier dogwood begins. Along the banks, the willows are taking on a golden glow. Though snow and cold remains, these plants are prepared for the warm days that will follow soon.

Birds can be used as a key to the degree of the advancement of spring, for birds in their actions and movements show a very close relationship to the lengthening of the days. First signs are observed at winter feeders: restlessness, friendly and sometimes not-so-friendly fighting, and sudden outbursts of song—for no apparent reason. The robin is not the only harbinger of spring: down where the ice is receding is the phoebe, to sample the early hatchings of

insects. Farther north, the flock of winter ducks is no longer just blacks and mallards: it now harbors the ever-impatient pintail who has come back to the breeding grounds.

Much study has been done on birds, their migration and homing instincts, yet we cannot explain all the whys and hows. With the lengthening day, physiological changes take place, such as the increase in size of reproductive organs. But day lengthening alone doesn't control the rate of migration—temperatures and food supplies are also guiding factors. Therefore, migration can be early or late, depending upon the northward advance of spring.

The sounds of early spring are all about now. So go look for spring—don't wait until the best is past—open your eyes, your ears, and your nose. There is no need to wait for April showers and May flowers. The signs are there now. The spring-tail insect life in the snow; grey squirrels out sampling the tonic spring buds; bunnies playing in the snow; sounds of raccoons fighting out their love; spice bushes in yellow flowers; calling redwings in the marshes. Spring is here, go find it, and enjoy, enjoy!



FROM THE DIRECTOR . . .

by Robert S. Treat

There are number of fundamental, deeply disturbing ideas currently about which few of us wish to face and most of us wish would go away. Unfortunately, like death and taxes, they are realities which catch up to us in the end. The first is not new nor unfamiliar: it is our deteriorating environment. Last month this column illustrated this deterioration with the example of strip-mining, which rapes and scars the surface of the earth in a profit-seeking attempt to satisfy the power and energy needs of America. On the whole, we have accepted this as a problem to solve; and while most of us agree that it is severe, there is a comfortable feeling that the solution lies in more technology which, although costly, will nevertheless clean up our world satisfactorily. But we fail to take the next step.

A good example of this unwillingness to follow problems to their logical conclusion is a recent Mobil Oil ad which capitalizes on the catch phrase, "More power to the people." This ad states that energy is power, that the United States uses more energy than any other nation in the world, that petroleum supplies three-quarters of this mechanical energy, and that we use more gas and oil than Japan, West Germany, and the Soviet Union combined. It also points out that there are those who suggest a slowdown but that there are some 25 million Americans who live in poverty and who will not and shouldn't be satisfied. They have a right to share in a better standard of living which energy helps to provide and, furthermore, "to develop new programs that conserve energy, we almost surely will need more energy than we use now." "More power, not less, is the way to better living for everyone."

Unintentionally, Mobil brings into focus two of these disturbing ideas. The recent and controversial "Blueprint for Survival" issued

by a group of eminent British ecologists challenges our age-old belief in progress, growth, and continual expansion as espoused by Mobil. The facts are (and this is the area we tend to gloss over) the Earth is finite, its resources are finite, and ". . . continued exponential growth of consumption of materials is impossible. Present reserves of all but a few metals will be exhausted within 50 years if consumption rates continue to grow as they are." The report goes on to say that there will be new discoveries, but at best this will provide us only with a limited stay of execution. Meanwhile, our government promotes further technological growth which in turn is supposed to promote more economic growth. But planet Earth cannot sustain such impact; and in their words, "the growth of the technosphere can only occur to the detriment of the ecosphere which means that it leads to the destruction of natural controls which then must be replaced by further technological ones." The report says much more, but the major point is simply that we must create a stable society (not a stagnant one) with minimal or decreasing demands combined with a massive recycling program and a close understanding of and living with nature.

Couple this "un-American" point of view regarding growth with Mobil's contention that those who have not will not be satisfied until they have, and you have yet another unpleasant problem. Such acquisitiveness set in motion will hardly create our stable society, and therein lies the rub. On the one hand, how do we survive in a finite world with finite resources? And on the other, how do we grant a better life to those, all over the world, who have every right to make the demand?

There is still one more question which has surfaced recently, particularly among the young. Are we really happy, satisfied, and content being the richest nation on earth? Or, should we be seeking happiness in a less materialistic way, learning to "grow with less" and developing a nonacquisitive search for deeper knowledge of self and nature? We need to think about these problems, and perhaps a partial solution lies in the fact that we are at last beginning to ask the questions.

An Eastern Bluebird To Color

This bird "carries the sky on its back,"
said Henry David Thoreau,
and has a rusty throat and breast.
The ripe red berry she holds will
feed her young.

This drawing was copied from
Song and Garden Birds of North America,
published by the National Geographic
Society.

by Shelley White

A BLUEBIRD OF HAPPINESS

by Frank R. Haeni

The Eastern Bluebird, *Sialia sialis*, also known as the blue robin, blue redbreast, and Wilson's bluebird, is a member of the Turdidae family which also includes the thrushes and solitaires. Its range was once commonly from Newfoundland to southern Saskatchewan and south to Texas and Florida. Formerly extremely abundant in the state of Connecticut, there are now only small pockets of the birds found in scattered areas.

As with many of the other rare or endangered species of plants and animals, man has played an important role in the decline of the bluebird population, either directly or indirectly. Both the house sparrow and starling were introduced from Europe in the late 19th century by people who thought that they were doing nature and themselves a favor by bringing part of the old country to the new land. Without the natural predators found in Europe, both birds moved into a niche already occupied by the bluebird, hairy and downy woodpeckers, and flicker.

House sparrows contest with the native bluebirds for the right to live near buildings in towns. Being non-migratory, the sparrows are able further to gain a foothold over the bluebirds during winter months when they invade the nesting boxes or other cavities that bluebirds use during the summer. Bluebirds depend upon berry-bearing trees, shrubs, and vines to tide them over when late snows cover the ground in early spring. A roving flock of starlings in winter can clean out a mountain ash in a few hours, leaving the bluebirds without any food.

The natural nesting sites are in deserted woodpecker holes, hollow trees, or crevices or rocks. The bluebird was one of the first birds to take advantage of modern conveniences set out by man and now is well adapted to using birdhouses. A hole of 1½" will accommodate a bluebird nicely. A starling cannot enter a hole with a diameter smaller than 2".

The birds line the interior of their houses with grass and pine

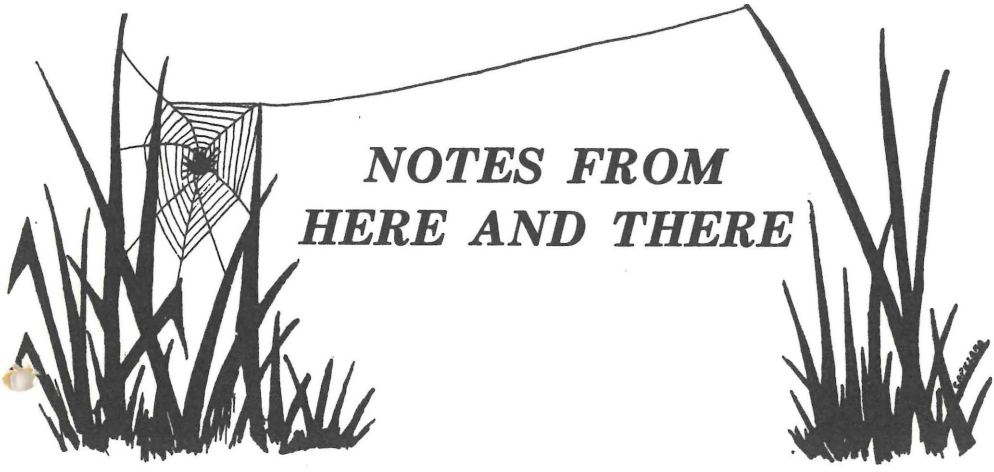
needles. Four or five pale blue eggs are laid that hatch in about two weeks. Two broods of young are usually raised. The female does most of the incubating of the eggs. Young birds are fed chiefly a diet of insects, including beetles, grasshoppers, and caterpillars. The other part of their diet consists largely of wild fruit. The first plumage consists of brown speckles, closely resembling that of their close relatives, the thrushes.

Young bluebirds, as well as the adults, are parasitized by larvae of the blood-sucking fly of the genus *Protocalliphora*. In some localities these larvae, which resemble the common wood tick, wipe out seventy-five per cent of the young birds. To prevent the spread of these destructive insects, nesting boxes should be cleaned out at the end of each nesting season. Old nesting material should be burned or buried to destroy the eggs and larvae of the parasite. In addition, the bottom of the box should be dusted heavily with Rotenone after the birds have left for the fall and again in the spring before the birds begin a new nesting season.

(Rotenone is an organic insecticide extracted from derris and cube roots grown in Peru. This is one of the less toxic pesticides, but care should be taken so that the Rotenone does not reach any streams or rivers as it is extremely toxic to fish. It is also wise to be cautious when purchasing and make sure the Rotenone is not mixed with other synthetic compounds that may be more toxic.)

Male bluebirds start arriving in the spring during the last part of March or the first weeks of April. Nesting boxes should be set out in the middle of March to insure that you will not disturb the early arrivals. Boxes may be set on trees, fence posts, or posts set out just for the occasion. Avoid placing the boxes near water, as tree swallows would then be more likely to use them. Since the bluebirds need a territory of at least 800 square feet, do not place the boxes closer than 700 to 800 feet from each other.

Everyone can play a valuable role in increasing the population of this bird that "carries the sky on its back" by setting out and maintaining nesting boxes.



NOTES FROM HERE AND THERE

FRIENDS OF THE CENTER: Dr. Walter Brown has become a Friend of the Center, and Miss Jessie Watters has renewed her Friend membership.

NEW BOARD MEMBERS ELECTED at the Annual Dinner Meeting held in January are Mrs. Donald Charbonnier of Essex, William Riddle of South Glastonbury, and Mrs. William Blunt White of Stonington. Officers elected were Dr. Robert S. DeSanto, President; Atty. Robert Sussler, Vice President; Mrs. John Merrill, Secretary; and Royce E. Gray, Treasurer.

COMMISSIONER DAN W. LUFKIN OF THE STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION has invited Center Director Robert S. Treat to attend a meeting with Mr. William Ruckelhaus, Administrator of the Environmental Protection Agency in the State Capitol, to "... learn directly some of the activities planned by EPA and how they will impact on the State of Connecticut."

THE LIBRARY OF THE SCIENCE CENTER is small but well stocked with new nature- and science-related volumes. This been made possible by gifts—not of old, discarded books but of funds which enable Librarian Margo Hirschberg to purchase the books we need. We are especailly grateful to Mr. and Mrs. Robert G. Shanklin of Old Lyme who have, for the second year, presented the Library with a check for $100.

A SELECTION OF THE REX BRASHER BIRD PAINTINGS is now on display at the Science Center. Considered by many to be the equal of Audubon's work, this fine collection is on loan from the Harkness Memorial State Park.

NEW CURATOR APPOINTED TO TAKE CHARGE OF THE CENTER'S MUSEUM: Director Robert Treat announced the appointment of Mrs. William Blunt White as Curator of the Science Center. "Shelley" White's artistic background and experience with other museums make her an important addition to the growing Center staff.

OTHER CENTER NEEDS to make our program more effective are a new van (our old model has seen better days); an opaque projector; hundreds of slides to complete our collection of birds, mammals, flowers, fish, and in other areas; a darkroom for photographic activities; an electric stapler; a 400-gallon fish tank; furniture for the entrance area; and chairs for the Library.

A COMPREHENSIVE PLAN FOR SNOWMOBILE USE on State-owned lands, with special motor vehicle laws affecting these machines, is outlined in "Snowmobile Laws & Regulations," available through the Department of Environmental Protection and issued jointly by Commissioner Lufkin of that Department and Motor Vehicle Commissioner Robert C. Leuba. While not as strong as environmentalists had hoped, it is a beginning of some measure of control. Violations of these regulations should be reported to 566-3970.

PROJECT SCANDINAVIA—An Ecological Study Tour of Sweden, Denmark, and Norway—is planned for 17 days (Friday evening, May 26, to Sunday evening, June 11, 1972). Inquiries should be made by phone to Harold S. Peters of the Farmington River Watershed Association, (203) 658-7800, who will lead the tour.

THE THERMOMETER FOR THE SECOND ANNUAL GIVING IS RISING very slowly with approximately $6,000 more to go in order to release the two-to-one matching gift of $4,000. One encouraging sign is the $42.46 recently contributed by the seventh grade S.O.S. Pollution Club of Lyme Consolidated School. We hope you will match their efforts.

JANUARY FIELD NOTES

CONTRIBUTORS: Please send or call in your field notes to Frank Haeni at the Center by the last day of the month. We are planning to publish reports by the calendar month rather than the staggered dates formerly followed. This should be more convenient for future reference.

New London, Waterford: Four GADWALL were seen in Waterford Jan. 1 and ten more on Jan. 23. Between 150-200 BONAPARTE'S GULLS were observed on the Thames River Jan. 3. At Harkness Park, six MEADOWLARKS were observed throughout January, a RUDDY TURNSTONE Jan. 8, and RED-BREASTED MERGANSERS Jan. 14. BROWN THRASHERS were seen in New London Jan. 12 and in Waterford Jan. 10, 29, and 31. A WOOD DUCK was seen in Alewife Cove Jan. 17 and 31. A GREATER YELLOWLEGS was observed in Waterford Jan. 23. Birding Jan. 24 produced a PALM WARBLER, also in Waterford. A single RED-SHOULDERED HAWK was seen in New London Jan. 31. Two pairs of RUFOUS-SIDED TOWHEES and a flock of 30 MOURNING DOVES have been feeding at the TSC's compost pile throughout January.

Mystic, Ledyard Preston: An ICELAND GULL in mature winter plumage was on Amos Lake in Preston Jan. 17-28, where a BLUEBIRD was seen Jan. 13 and a RED-BELLIED WOODPECKER on Jan. 21. On Jan. 31 at the Peace Sanctuary in Mystic, a GREAT HORNED OWL was observed being bombarded by a dozen or more CROWS.

Niantic, the Lymes, Essex: On New Year's Day a DOVEKIE was seen on the Niantic River near New Black Point Beach. Two RUBY-CROWNED KINGLETS were seen in East Lyme Jan. 4-6. In Lyme 25 BLUEBIRDS and a WHITE-WINGED CROSSBILL were observed Jan. 6. An uncommon RED-BELLIED WOODPECKER was at a suet feeder in Essex Jan. 7. Two PIED-BILLED GREBES were on Gorton Pond Jan. 14. A BALTIMORE ORIOLE was seen in Lyme Jan. 27 and another throughout the month in Niantic. Also in

Niantic was a flock of MEADOWLARKS that came to feeders throughout the month, together with a YELLOW-SHAFTED FLICKER. At Rocky Neck Park a HERMIT THRUSH and a RED-TAILED HAWK were spotted Jan. 30.

Rhode Island Shoreline: An oil-soaked RAZOR-BILLED AUK was found Jan. 1 at Watch Hill and released after cleaning at Waterford Beach. Jan. 1 also produced a flock of 25 PURPLE SANDPIPERS at Napatree Point. On Jan. 3 a YELLOW PALM WARBLER was noted at Matunick, where a THICK-BILLED MURRE was seen in Card Pond. An AMERICAN BITTERN seen Jan. 3 in the marsh at Galilee was seen again Jan. 12. On a field trip Jan. 9 the following were observed: a GLAUCOUS GULL at Point Judith, eight MYRTLE WARBLERS at Galilee, a BRANT and a ROUGH-LEGGED HAWK in dark phase at Moonstone Refuge. Also at Moonstone Jan. 14 was a MARSH HAWK, and near Quononchontaug on the same day was a RAZOR-BILLED AUK. Birders were rewarded with the sighting of an IPSWICH SPARROW at Napatree Point Jan. 30. Other sightings there included three BLACK-BELLIED PLOVERS, a RUDDY TURNSTONE, six DUNLINS, 20 HORNED LARKS, two COMMON LOONS, 25 GREAT CORMORANTS (some with white wing patches), two MYRTLE WARBLERS, two COMMON EIDERS, two SHORT-EARED OWLS, and an OLD SQUAW.

Contributors: Bates, Bissell, Bulmer, Bushnell, Butcher, Capizzano, Carlson, Chappell, Dasinger, Gilman, Goddard, Haeni, Jordan, Kish, Lafargue, McCloud, Merrill, Perkins, Secora, Scott.

Birds banded at TSC during January:

Black-capped Chickadee (1)
American Goldfinch (4)
Slate-colored Junco (2)
Pine Siskin (41)
Tree Sparrow (2)

Birds banded at Peace Sanctuary since November 23, 1971:

Black-capped Chickadee (6)
American Goldfinch (26)
Blue Jay (1)
Slate-colored Junco (23)
White-breasted Nuthatch (3)
Pine Siskin (2)
Song Sparrow (2)
Tufted Titmouse (4)
Downy Woodpecker (1)

AUDUBON WILDLIFE FILMS

Palmer Auditorium, Connecticut College, 3:00 P.M.

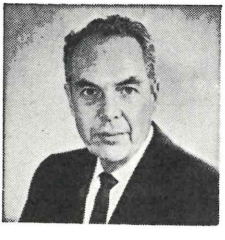
Sunday

March 5, 1972

Howard Boyd

"Downstream"

A study of water, from the time it first reaches the earth until it returns to the atmosphere. Howard Boyd has photographed the sphagnum bogs — transformed by water into botanical fairylands; fast flowing streams, and lakes that provide suitable environment for whole communities of animals; the big rivers, now largely polluted by civilization; and the tidal marshes that support one of the greatest concentrations of living things on the face of the earth. This is an important ecological story.



Sunday

April 9, 1972

Harry Pederson

"Village Beneath the Sea"

A small isolated coral formation is the heart of a village beneath the sea, inhabited by many bizarre citizens who live cooperatively in a fascinating aquatic community. Harry Pederson of McAllen, Texas, introduces to Audubon viewers the flying gurnard, who uses his fins like the wings of a plane, the neon gobies who operate a scale-cleaning service station, the barking jawfish, and other odd creatures, in a most unusual and colorful undersea adventure.

NATURALIST NOTEBOOK

Published by the
THAMES SCIENCE CENTER
Gallows Lane
New London, Connecticut 06320
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The NATURALIST NOTEBOOK is published 10 times annually. Subscription available through membership only.
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